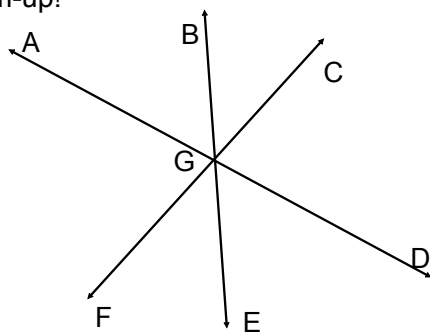


Warm-up!



1. Name a pair of vertical angles.
2. Name a linear pair.
3. Name a pair of adjacent angles that are not a linear pair.

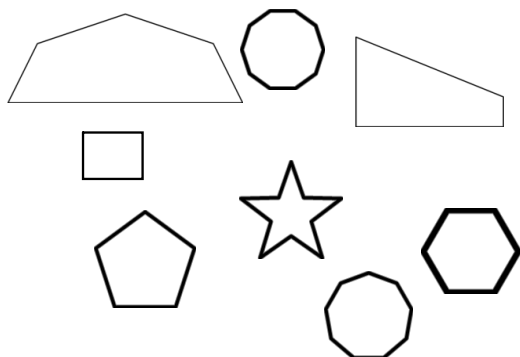
1.6 Classify Polygons

polygon--closed plane figure, whose sides are all segments

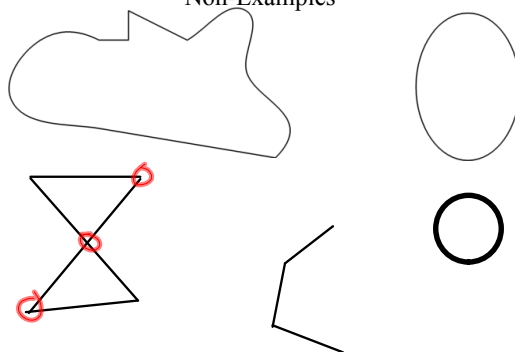
- sides have a common endpoint and are non collinear
- each side intersects exactly 2 other sides

vertex--each endpoint of a side

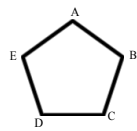
Examples



Non-Examples


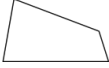




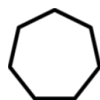
Name by the vertices, in consecutive order



polygon ABCDE
polygon DCBAE

Types of Polygons

Shape	# of sides	Name
	3	Triangle
	4	Quadrilateral
	5	Pentagon
	6	Hexagon



7

Heptagon



8

Octagon



9

Nonagon

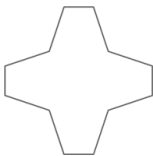


10

Decagon

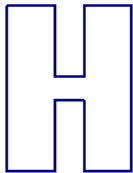
11

11-gon



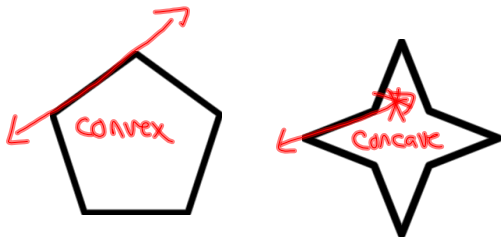
12-gon

Dodecagon

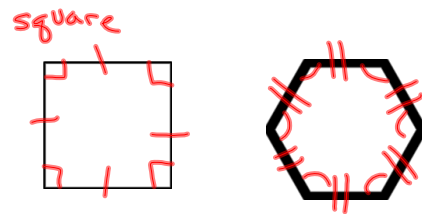


Convex--A polygon is convex, if the line containing a side does not contain points on the interior of the polygon

Concave--Not convex



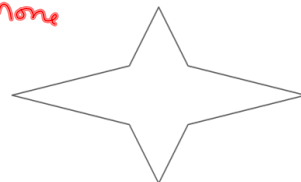
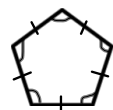
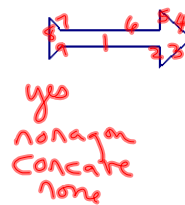
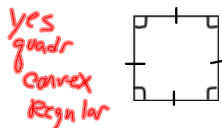
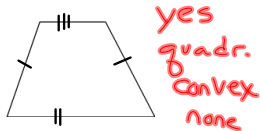
Regular Polygon--convex polygon where all of the sides are congruent, and all of the angles are congruent



equilateral--all sides are congruent
equiangular--all angles are congruent

Classify the following figures as:

- polygon or not (if polygon, what type)
- convex or concave
- equilateral, equiangular, regular or none



Find the perimeter of ABCDE

A(0, 4) B(4, 0) C(3, -4) D(-3, -4) E(-3, 1)

$$DE = 5$$

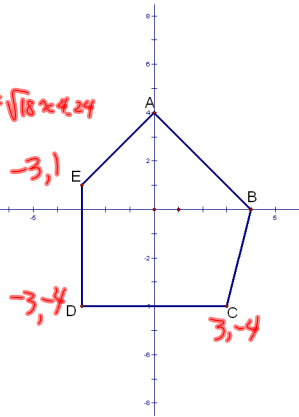
$$CD = 6$$

$$AE = \sqrt{(0 - (-3))^2 + (4 - 1)^2} = \sqrt{18} \approx 4.24$$

$$AB = 4\sqrt{2} \approx 5.6$$

$$BC = \sqrt{17} \approx 4.12$$

$$P \approx 25.02 \text{ units}$$



If the perimeter of the triangle below is 36 units, find the length of the sides.

